

WHAT IS CLAIMED:

1. A method of inhibiting tumor growth in an animal, comprising:
  - selecting an animal in need of treatment for a tumor;
  - providing a monoclonal antibody comprising a heavy chain amino acid, wherein said antibody has an amino acid sequence selected from the group consisting of SEQ ID NOs: 1, 5, 9, 13, 17, 21, 25, 29, 33 and 37, and wherein said monoclonal antibody binds MUC18; and
  - contacting said tumor with an effective amount of said antibody, wherein said contacting results in inhibited proliferation of said cells.
- 10 2. The method of claim 1, wherein said antibody is a fully human antibody.
3. The method of claim 1, wherein said antibody further comprises a light chain amino acid having an amino acid sequence selected from the group consisting of SEQ ID NOs: 2, 6, 10, 14, 18, 22, 26, 30, 34 and 38.
- 15 4. The method of claim 1, wherein said antibody is conjugated to a therapeutic or cytotoxic agent.
5. The method of claim 4, wherein the cytotoxic agent is ricin.
6. The method of claim 4, wherein the further therapeutic agent is a radioisotope.
7. The method of claim 1, wherein said tumor is melanoma.
- 20 8. The method of claim 1, wherein said tumor is a lung tumor
9. The method of claim 1, wherein said tumor growth is tumor metastasis.
10. A method of inhibiting cell invasion associated with melanoma, comprising:
  - selecting an animal in need of treatment for melanoma;
  - providing a monoclonal antibody comprising a heavy chain amino acid, wherein said antibody has an amino acid sequence selected from the group consisting of SEQ ID NOs: 1, 5, 9, 13, 17, 21, 25, 29, 33 and 37, and wherein said monoclonal antibody binds MUC18; and
  - contacting said melanoma with an effective amount of said antibody, wherein said contacting results in inhibited cell invasion.
- 25 30 11. The method of claim 10, wherein said antibody is a fully human antibody.

12. The method of claim 10, wherein said antibody is conjugated to a therapeutic or cytotoxic agent.
13. The method of claim 12, wherein the cytotoxic agent is ricin.
14. The method of claim 12, wherein the further therapeutic agent is a radioisotope.
- 5 15. A method of increasing survival of an animal having a metastatic tumor, comprising:
  - selecting an animal in need of treatment for a metastatic tumor;
  - providing a monoclonal antibody comprising a heavy chain amino acid, wherein said antibody has an amino acid sequence selected from the group consisting of SEQ ID NOs: 1, 5, 9, 13, 17, 21, 25, 29, 33 and 37, and wherein said monoclonal antibody binds MUC18; and
  - 10 contacting said animal with an effective amount of said antibody, wherein said contacting results in inhibited metastasis of said tumor resulting in increased survival of said animal.
  - 15 16. The method of claim 15, wherein said antibody is a fully human antibody.
  17. The method of claim 15, wherein said antibody is conjugated to a therapeutic or cytotoxic agent.
  18. The method of claim 17, wherein the cytotoxic agent is ricin.
  - 20 19. The method of claim 17, wherein the further therapeutic agent is a radioisotope.